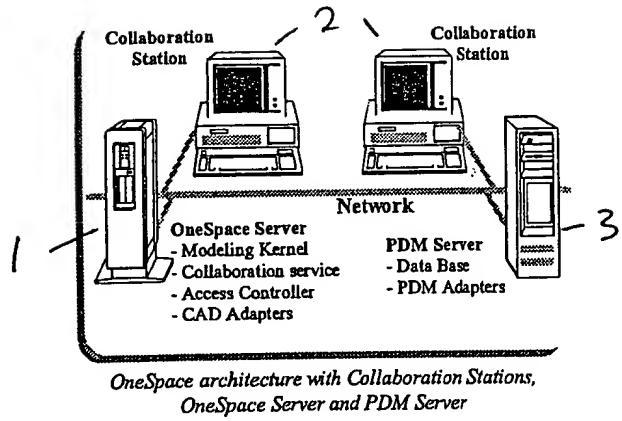
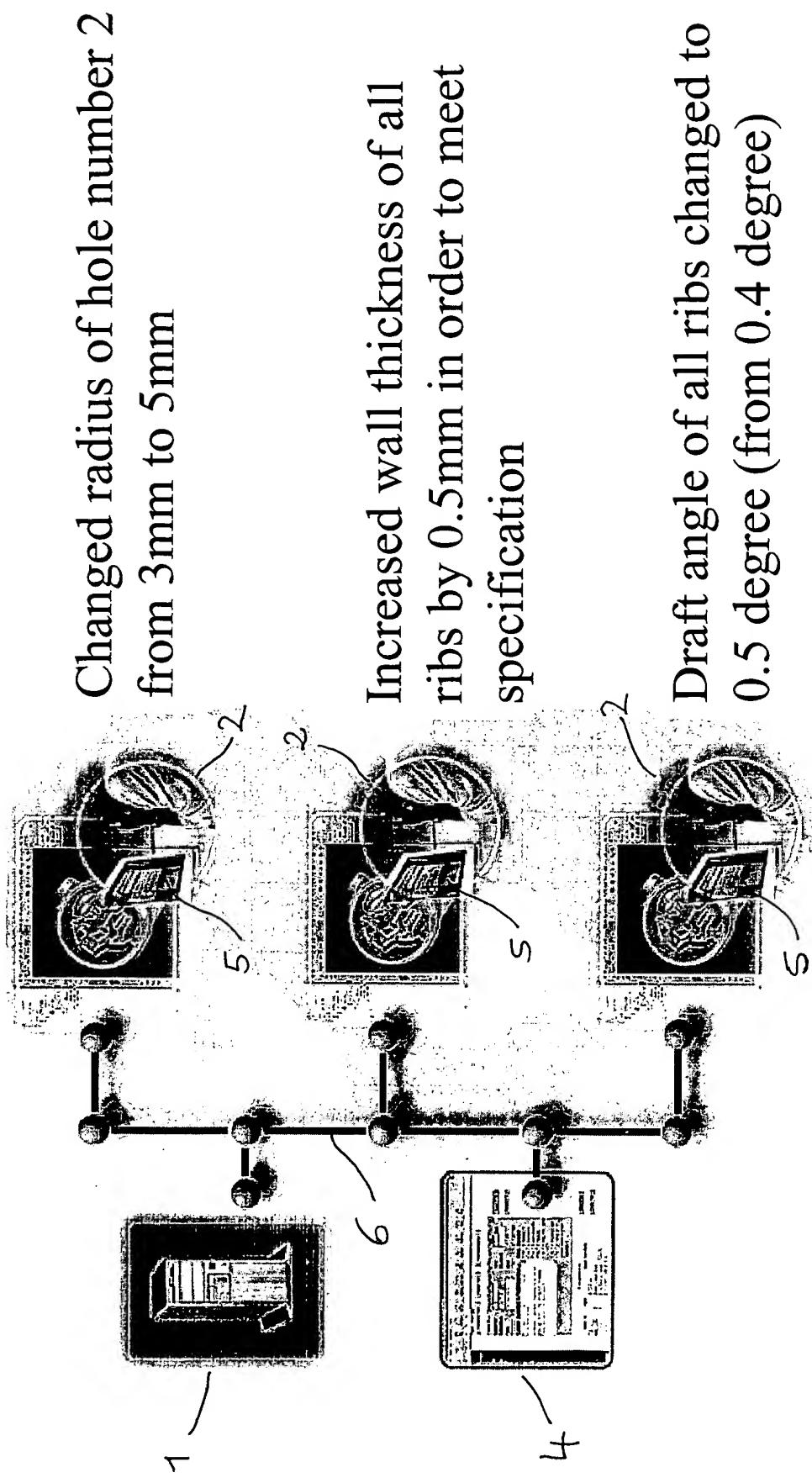


# Fig. 1



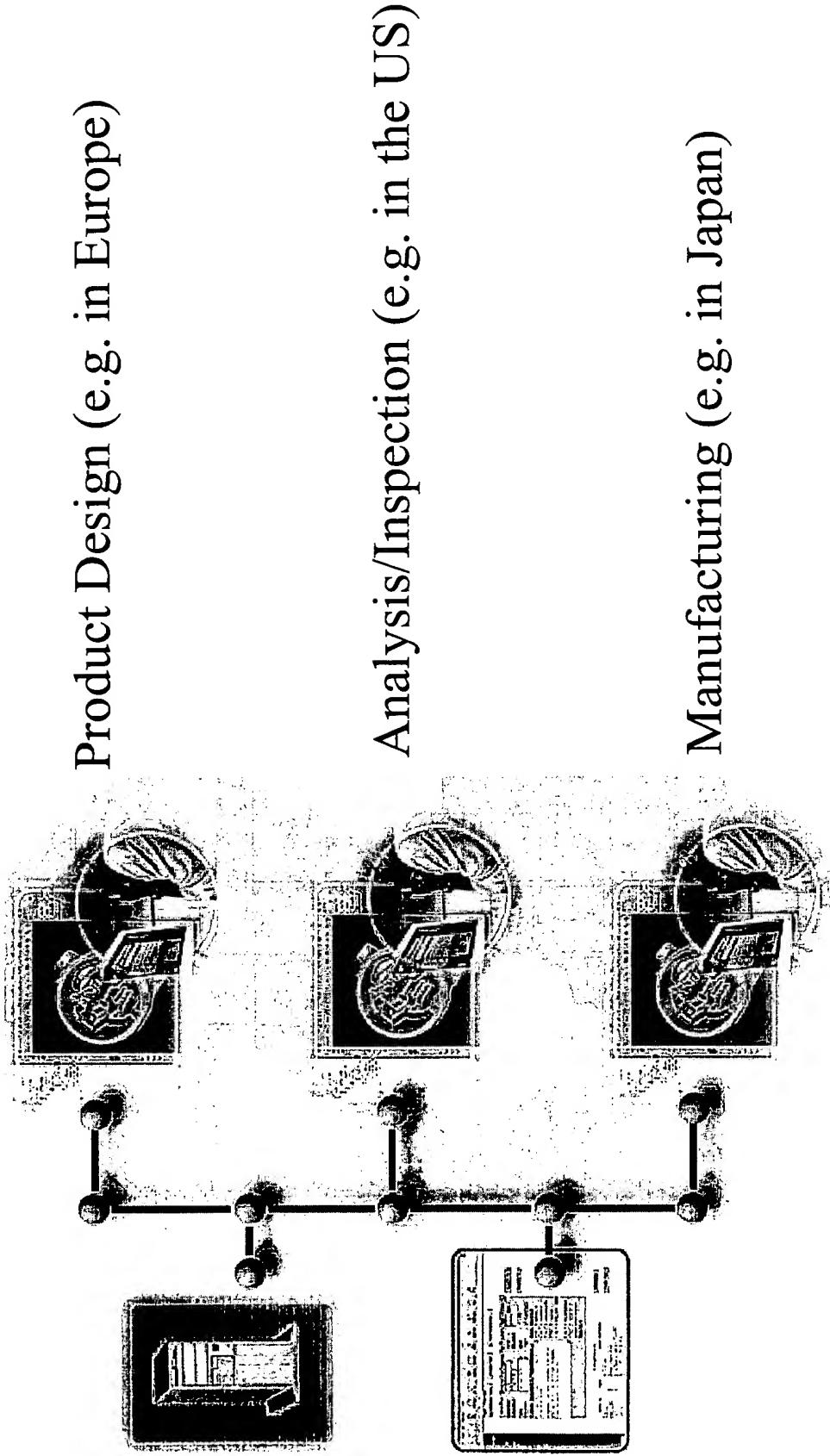
Design Changes are done virtually at the same time  
by all people involved

Fig. 2



All people involved in the product development process meet in a virtual environment

Fig. 3



Collaboration Log contains all information required to understand what changes were done by whom for what reason

### Collaboration Log 1

Name: Mechanical Designer X

Location: Sindelfingen, Europe

Date: 12, October 1999

Time: 9:12am

Computer: 15.143.12.12

Description: changed radius of hole number 2 from 3mm to 5mm

Operation: Change\_hole

Object: hole\_id

Value: 3

Dependencies: none

Status: agreed

### Collaboration Log 2

Name: Finite Element Analyst Y

Location: Fort Collins, Colorado, US

Date: 12, October 1999

Time: 9:11am

Computer: 15.144.128.04

Description: Increased wall thickness of all ribs by 0.5mm in order to meet specification

Operation: Offset\_faces

Object: face\_1\_id, face\_2\_id, face\_3\_id, face\_4\_id

Value: 0.5mm

Dependencies: Log 3

Status: agreed

### Collaboration Log 3

Name: Manufacturing subcontractor Z

Location: Kobe, Japan

Date: 12, October 1999

Time: 9:15am

Computer: 22.255.128.22

Description: Draft angle of all ribs changes to 0.5 degrees (from 0.4 degrees)

Operation: Taper faces

Object: face\_1\_id, face\_2\_id, face\_3\_id, face\_4\_id

Value: 0.5mm

Dependencies: Log 2

Status: agreed

Fig. 4